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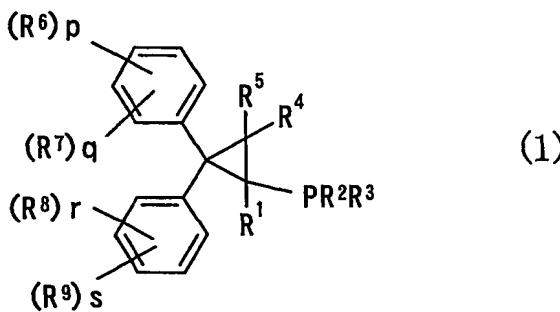
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(54) Title: **A PHOSPHINE COMPOUND, ITS INTERMEDIATE, ITS COMPLEX WITH PALLADIUM AND A MANUFACTURING-METHOD-OF-UNSATURATED COMPOUNDS BY USING THE PALLADIUM COMPLEX**



(57) **Abstract:** Palladium-phosphine complexes obtained by reacting a 5 compound of formula (1) below with a palladium compound: F(I) (wherein R¹ is a hydrogen atom, an alkyl group, a cycloalkyl group or a phenyl group which may be substituted; R² and R³ are each, the same or different, an alkyl group, a cycloalkyl group or a phenyl group which may be substituted; R⁴ and R⁵ are each, the same or different, a hydrogen atom, an alkyl group, a cycloalkyl group or a phenyl group which may be substituted; R⁶, R⁷, R⁸ and R⁹ are each, the same or different, an alkyl group, a cycloalkyl group, a phenyl group which may be substituted, an alkoxy group, a dialkylamino group, a halogen atom, a phenyl group, a benzyl group, a naphthyl group or a halogenated alkyl group; R⁶ and R⁷, R⁸ and R⁹ may be combined to form, each, a fused ring, a trimethylene group, a tetramethylene group or a 20 methylenedioxy group; p, q, r and s are each an integer of 0 to 5; and p + q, and r + s are each in the range of 0 to 5.), which is a novel and efficient catalyst for manufacturing various useful compounds.

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